

FARNET

The Federation of American Research Networks

Washington Office
1112 16th Street, NW
Suite 600
Washington, DC 20036
(202) 331-5342

RECEIVED

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DATE: April 11, 1996

ADDRESSEE: Federal Communications Commission
1919 M Street, NW
Washington, DC 20554

REFERENCE: CC Docket No. 96-45
In the Matter of Federal-State Joint Board on Universal Service

TO: Honorable Commissioners and Members of the Joint Board:

FROM: Cornell University
On behalf of the Federation of American Research Networks (FARNET), I submit the following informal comments on the Notice of Proposed Rulemaking regarding Universal Service.

DESCRIPTION: FARNET is a not-for-profit organization formed in 1987 to facilitate cooperation and discussion among educational institutions, corporations and the government in the building of the Internet, primarily through the NSFNet program. FARNET members consist of both not-for-profit and for-profit organizations, including Internet Service Providers, Network Service Providers, Interexchange Companies, Regional Bell Operating Companies, Universities and Supercomputer Centers. Although the NSFNet backbone transitioned to commercial providers (many of whom are FARNET members) in April of 1995, FARNET and its members continue to work together to ensure that the advancing needs of the research and education community are met by present and future networks.

NOTES: FARNET commends the Congress for its foresight in taking into consideration the evolving nature of electronic communications infrastructure and services. The 1996 Telecom Act states that, "Universal service is an evolving level of telecommunications services that the Commission shall establish periodically under this section, taking into account advances in telecommunications and information technologies and services." (PL 104-104 Sec. 254 (c) (1)) The Commission and Federal-State Joint Board have a tremendous opportunity in defining which services will be included in "access to advanced services" generally and "access to advanced telecommunications services for schools, health care, and libraries" especially.

COMMENTS: I would like to comment specifically about the possible inclusion of "Internet access." In paragraph 22 of Section III of the NPRM, the Commission asks for comments on whether "Internet access availability" is a service "that may warrant inclusion, now or in the future, in the list of services that are supported by universal service support mechanisms" for rural, insular and

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high cost areas. In Section V, paragraph 36, of the NPRM, the Commission contemplates its role in establishing rules to enhance the availability of advanced telecommunications and information services to schools, libraries and rural health institutions, including, possibly, "dedicated data links" and the ability to access information "carried over the Internet."

The "Internet" is primarily a collection of mutually agreed upon protocols which allow computers to communicate with one another over private and public networks. Today, access to the Internet for most rural and many suburban Americans is available only over analog (POTS) telephone circuits. On the other hand, a number of broadband transmission technologies are currently available to urban residential and business customers, including ISDN and Hybrid Fiber-Coax cable systems for connection to the Internet. These technologies are much more capable for providing access to advanced communications such as the Internet.

There have been barriers to reaching that goal. For example, FARNET notes the difficulties many of its members' customers have had in obtaining even a relatively easily-installed technology such as ISDN from their local telephone companies.¹

FARNET urges the Commission to make a distinction between the access technologies necessary to deliver services and the enhanced services themselves. A participant in last year's NII 2000 workshop convened by the Computer Science and Telecommunications Board of the National Research Council put it this way, "Yesterday the term universal service did not differentiate between access and the service itself, because for a phone call the phone and the service were essentially the same thing. Now, or in the future, we are talking about two different things."²

The provision of Internet service (not the provision of the lines or cables needed to access that service) is already a highly competitive market with multiple providers in almost every LATA. (see for example, TheList at <http://www.thelist.com/>) Furthermore, if FARNET members are any indication, many Internet Service Providers are already engaged in providing Internet service to the K-12 community, often at a significant discount. More

¹ Integrated Services Digital Network (ISDN) gives the user 128 Kbps access to the Internet, almost 4.5 times faster than the fastest analog modems currently available at 28.8 Kbps. ISDN plays an important role in giving business, educational and residential users a stepping stone between modem access and dedicated access. However, the pricing and availability of ISDN around the country have varied widely. For example, residential tariffed prices for 100 hours of 2B + D usage per month vary from \$17.90 to \$314.83. (See *Selected ISDN Tariffs*, Consumer Project on Technology, version 1.0b, March 8, 1996, <http://www.essential.org/cpt>)

² Computer Science and Telecommunications Board, *The Unpredictable Certainty*, National Academy Press (Washington, DC): 1996, pg. 201

importantly, many are engaged in the even more important provision of human resources to help those schools realize the most out of their connection.

FARNET urges the Commission to ensure that adequate investment is made in a physical infrastructure (technologically neutral) capable of delivering high-performance access to the Internet.

As the Commission cited in its NPRM, one of the foremost problems schools cite as obstacles to getting on the Internet, is "inadequate telecommunications links."³ Little can be achieved by giving schools, libraries and health care providers discounts for Internet service if the underlying transport facilities are not capable of delivering meaningful (i.e. video, voice, graphical and text enabled) access. As we have discussed above in terms of ISDN, the current system has worked against the rapid deployment of new transport technologies. While ISDN is probably not a long-run solution to the access needs of schools, it might have been a cost-effective stepping stone to higher performance technologies.

Finally, the Internet serves as an excellent model for future networking infrastructures. However, FARNET recognizes that the Internet is just the beginning. Keeping universal service focused on the availability of various transmission technologies will allow all types of advanced communications services to flourish.

On behalf of FARNET, I thank the Commission for the opportunity to comment on this issue. FARNET would be happy to provide additional comments on any of these issues.

Sincerely,

A handwritten signature in black ink, appearing to read "Jim Williams", with a long, sweeping horizontal line extending to the right.

Jim Williams
Executive Director

³ National Center for Educational Statistics, US Department of Education, *Advanced Telecommunications in US Public Elementary and Secondary Schools* 1995, Feb. 1996.